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A1

EUROPEAN PATENT APPLICATION

⑤ Int. Cl.<sup>3</sup> H 05 B 6/64, F 24 C 7/02

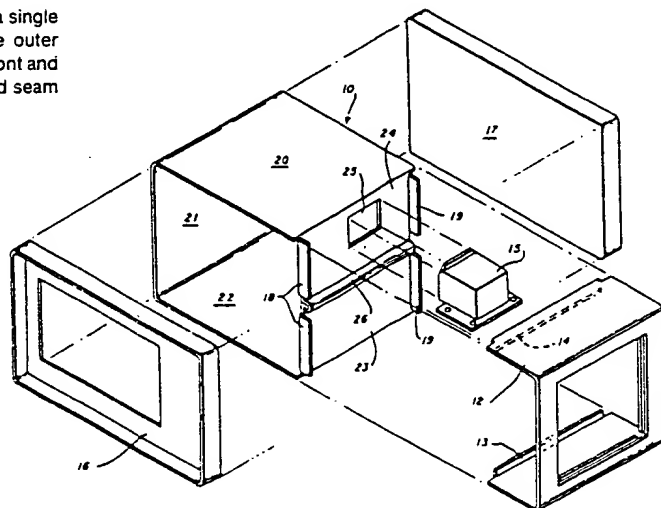
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57) A low-cost microwave oven construction wherein a single sheet of metal forms both the cooking cavity and the outer wrap. The cavity, components compartment (12), and front and back panels (16, 17) are joined by a continuous crimped seam to form a unitary oven construction.



**EP 0 110 364 A1**

MICROWAVE OVEN WITH COMMON WRAP AND CAVITY WALLSBackground of the Invention

This invention relates to the construction of microwave ovens,  
15 and especially to the construction of the oven cavity and outer wrap.  
Because of the need to contain microwave frequency energy in a  
controlled fashion, almost all microwave ovens heretofore known include  
a discrete, box-like element referred to as the cooking cavity, or  
simply cavity. The cavity was secured into some kind of frame which  
20 housed the remainder of the oven operating components, the entire  
assembly being enclosed in a decorative outer shell, called a wrap.

Because of keen competition in the marketplace, it is necessary  
that microwave ovens be constructed as economically as possible. One  
way to realize substantial manufacturing economy is to combine the oven  
25 cavity and outer wrap into a single element. The present invention  
teaches how such a combination may be accomplished, which combined with  
other aspects of the invention provide a truly economical construction.

Summary of the Invention

The present invention provides for the construction of a micro-  
30 wave oven having a combined oven cavity and wrap. A single formed  
metal sheet is folded to form an oven cavity which simultaneously pro-  
vides one side wall and a major portion of the top and bottom walls of  
the outer wrap. A component section is added to the cavity to complete  
the other side wall and the remaining portion of the top and bottom of  
35 the wrap. A front and back panel are added to complete the construc-  
tion. The cavity portion as well as the front and back panels may all  
be assembled by crimping techniques, thereby eliminating the need for  
welding or other forms of fastening.

1 with woodgrain vinyl. The interior side of the same top wall 20 and  
side wall 21, as well as bottom wall 22 may all be painted a different  
color, such as white, for the interior of the oven cavity. However it  
is important to note that the oven cavity and outer wrap are both  
5 provided by the same single metal sheet and that there is no separate  
cavity and/or outer wrap portion. The exterior of component com-  
partment 12 will of course be finished in the same manner as the  
exterior portion of the cavity element 10.

The construction described and illustrated provides for an  
10 extremely simple microwave oven construction comprising a very small  
number of individual parts. The use of the common cavity wall and  
outer wrap reduces the materials used in the oven and the construction  
complexity to a minimum, and the use of crimping techniques to assemble  
the components greatly reduces the labor required in assembly as com-  
15 pared to previously known constructions.

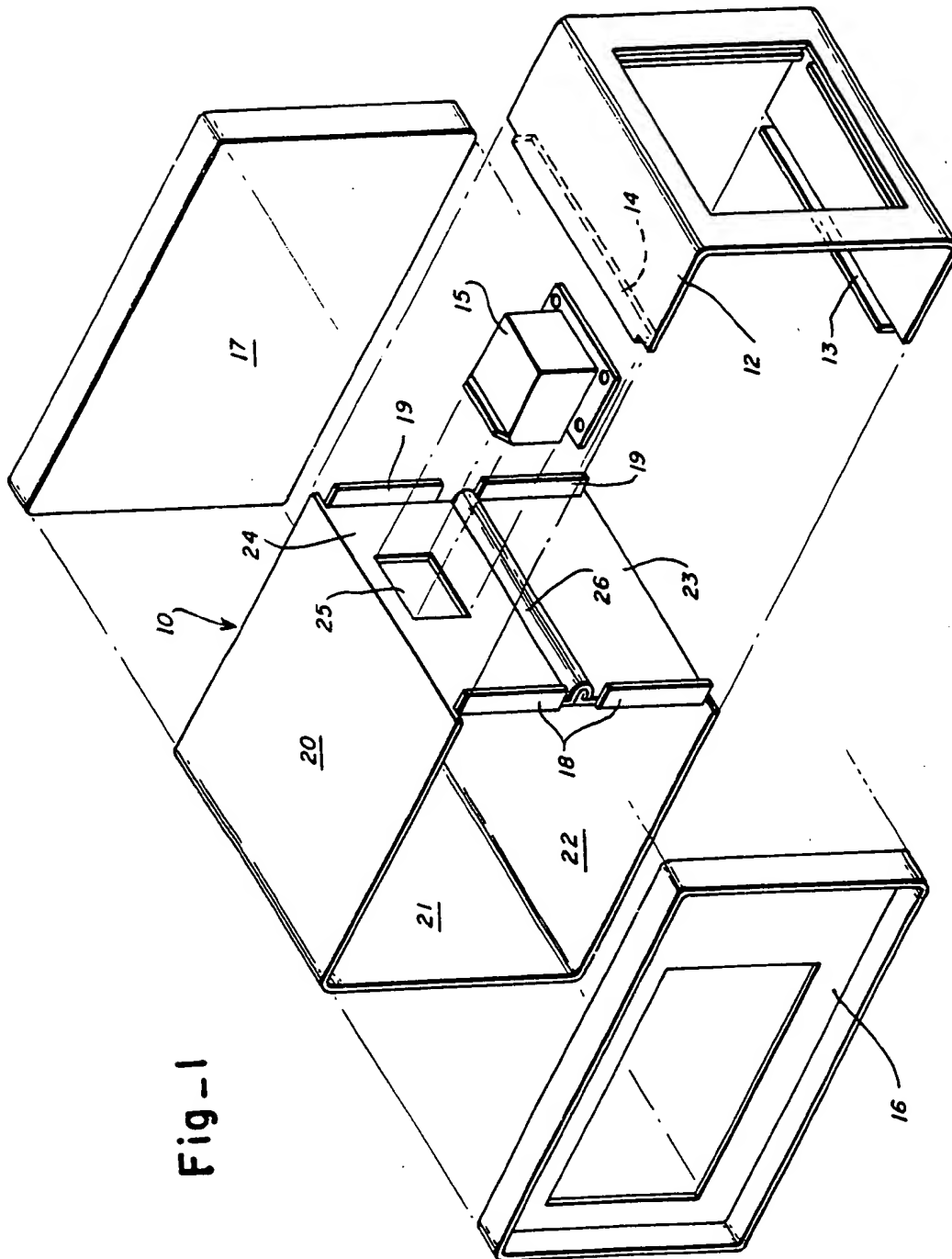
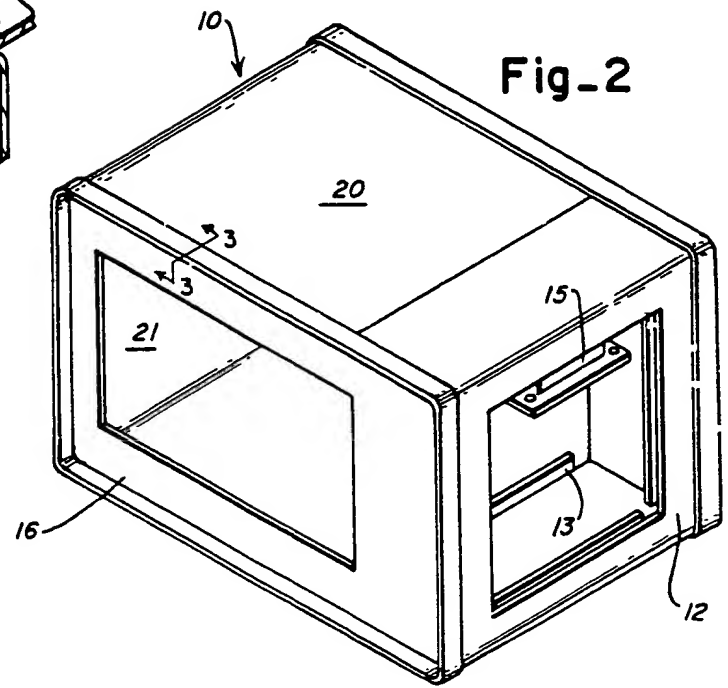
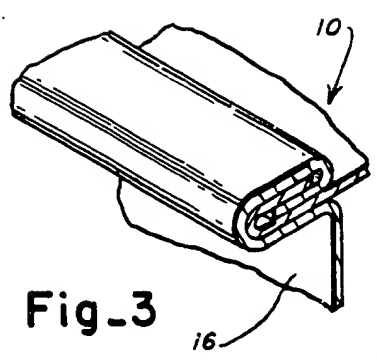
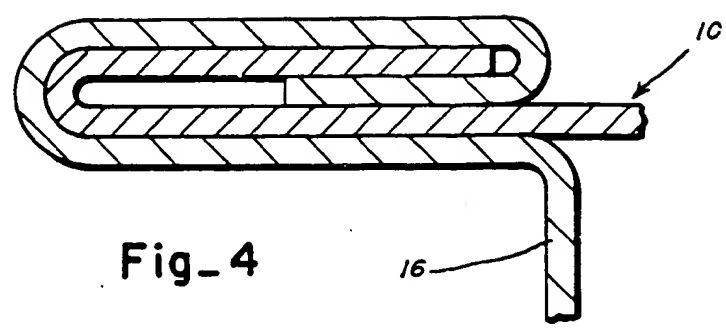


Fig-1





European Patent  
Office

# EUROPEAN SEARCH REPORT

0110364  
Application number

DOCUMENTS CONSIDERED TO BE RELEVANT			EP 83111895.5
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 7)
A	US - A - 4 282 416 (WHITE) + Totality + --	1	H 05 B 6/64 F 24 C 7/02
A	US - A - 4 192 431 (BROWN) + Totality + ----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 7)
			H 05 B 6/00 F 24 C 7/00
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 29-02-1984	Examiner TSILIDIS
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EP 000110364 A  
JUN 1964

LITO ★ Q74 84-147637/24 ★EP-110-364-A  
Microwave oven with common wrap and cavity walls - in which  
cavity, components compartment and front and back panels are  
joined by continuous crimped seam

LITTON SYSTEMS INC 29.11.82-US-445291

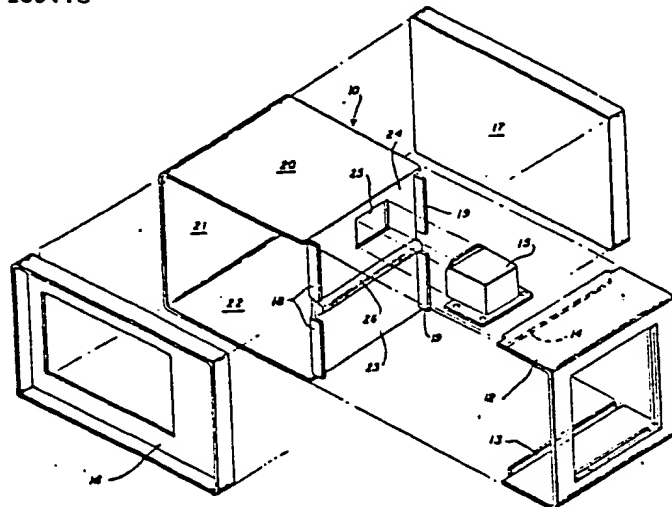
X25 (X27) (13.06.84) F24c-07/02 H05b-06/64

28.11.83 as 111895 (904GW) (E) US4282416 US4192431 E(AT BE CH  
DE FR GB IT LI LU NL)

The cavity wall comprises a formed metal sheet (10) folded into a box like cavity (20,21,22,23,24) with flanges (18,19) joined at a crimped seam (26). A second formed metal sheet (12) has flanges (13,14) attached to the sidewall (23,24) by spot welding the flanges (13,14) to form a components cavity. An aperture (25) is provided in a sidewall (24) over which is fitted a wave guide (15). A metal panel (16) extends across the oven cavity and components cavity forms the oven front and similarly a second metal panel (17) forms the oven back. Both panels are initially spot welded to flanges (18,19) and are finally joined by continuous crimped joints to form a unitary assembly.

The construction provides for an extremely simple microwave oven construction comprising a very small number of individual parts. The use of a common cavity wall and outer wrapper reduces materials used and construction complexity to a minimum and the use of crimping techniques for assembly reduces the labour required compared with other known constructions. (7pp Dwg.No.1/4)

N84-109778



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